

**PATENT**  
**IBM Docket No. CA9-1999-0024**

**Listing of Claims:**

1. (Amended) A method of simplifying access to a software component, comprising the steps of:

choosing said software component by a user from a first server on a computer network;

choosing a wrapper for said software component by said user based upon single or multiple usage of said software component;

mapping a home interface of said software component to a constructor of said wrapper such that the home interface and a remote interface of said software component are hidden from a client program; and

calling a remote interface method of said software component by the client program which in turns calls the remote interface of the [a] software component [remote interface].

2. (Original) The method of claim 1, further comprising the step of choosing at least one attribute of said software component to cache.

3. (Original) The method of claim 2, further comprising the step of choosing string conversion for said at least one chosen attribute.

4. (Original) The method of claim 1 wherein said software component is an enterprise bean.

5. (Original) The method of claim 4, wherein said step of

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mapping a home interface method of said enterprise bean further comprises mapping to a null constructor of said wrapper.

6. (Original) The method of claim 1 wherein said method occurs on a second server connected to said first server on a computer network.

7. (Original) The method of claim 1 wherein said computer network is the Internet.

8. (Original) The method of claim 1 wherein said step of choosing a wrapper for said software component further comprises selecting one from the group consisting of a Type 1 Access Bean, a Type 2 Access Bean, and a Type 3 Access Bean.

9. (Original) The method of claim 8, wherein said step of choosing a wrapper for said software component further comprises selecting a Type 2 Access Bean or a Type 3 Access Bean.

10. (Amended) A method of consuming an enterprise bean from a client program, comprising the steps of:

instantiating an Access Bean having a home interface and remote interface of said enterprise bean by calling one of a plurality of constructors; and

calling a first of a plurality of methods of said Access Bean to instantiate said enterprise bean and a corresponding method of said enterprise bean; and

calling subsequent methods of said plurality of methods of said Access Bean to call corresponding methods of said enterprise bean.

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11. (Amended) A computer system for accessing a software component, comprising:

a first server having a CPU and a software component accessed through at least one home interface and at least one remote interface;

a second server having a CPU and client program to access said software component on said first server through a computer network;

a database used by said software component and said client program; and

a client program access code to map said at least one home interface method of said software component to a constructor in said client program access code and to map said at least one remote interface method of said software component to methods of said client program access code in an access bean.

12. (Original) The computer system of claim 11, wherein said first server, said second server are the same server and said computer network is an internal bus.

13. (Original) The computer system of claim 11, wherein said first server, said second server, said database, and said client program are all on different servers connected with each other on said computer network.

14. (Amended) A computer readable medium encoded with a set of executable instructions to perform a method for accessing a software component, the method comprising:

locating a name server of said software component;

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choosing said software component from said name server;  
choosing a wrapper for said software component based upon single or multiple usage of said software component;  
mapping a home interface of said software component to a null constructor of said wrapper within an access bean; and  
mapping a remote interface method to a software component remote interface within the access bean.

15. (Original) The computer readable medium of claim 14, further comprising creating a local cache having a plurality of selected attributes of said software component.

16. (Original) The computer readable medium of claim 15, further comprising choosing string conversion for at least one of said plurality of selected attributes.

17. (Original) The computer readable medium of claim 15, further comprising indexing said local cache for each instance of said software component.

18. (Original) The computer readable medium of claim 15 wherein said software component is an enterprise bean.

19. (Amended) A computer readable medium encoded with a set of executable instructions to perform a method for consuming an enterprise bean on a computer network, the method comprising:

instantiating an Access Bean having the home interface and remote interface of said enterprise bean by calling one of a plurality of constructors; and

calling a first of a plurality of methods of said Access

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Bean to instantiate an enterprise bean and a corresponding method of said enterprise bean; and

calling subsequent methods of said plurality of methods of said Access Bean to call corresponding methods of said enterprise bean.

20. (Amended) An apparatus to access a software component, comprising:

a first server having said software component;

a second server having a means to access said software component;

means to instantiate said access means by calling one of a plurality of constructors in an access bean having both a home interface and remote interface for said software component;

means to call a first method of said access means to instantiate said software component; and

means to call at least one subsequent constructor of said access means which calls a corresponding method of said software component; and

means to call at least one subsequent method of said access means which calls a corresponding method of said software component.

21. (Original) The apparatus of claim 20, further comprising means to cache a plurality of attributes of said software component.

22. (Original) The apparatus of claim 21, wherein said software component is an enterprise bean and said caching means

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is a CopyHelper of a Type 2 or a Type 3 Access Bean and said Access Bean maps a plurality of setter and getter methods in a remote interface of said software component to a plurality of local get/set methods of said Access Bean.

23. (Original) The apparatus of claim 22, further comprising a String conversion means for at least one of said plurality of said attributes.

24. (Original) The apparatus of claim 22 further comprising means to itemize said plurality of cached attributes corresponding to more than one instance of said enterprise bean.

25. (Original) The apparatus of claim 21 further comprising a cache synchronizing means to issue a remote call to create or flush or refresh said cache to/from said enterprise bean.

26. (Amended) A method of claim 4 for accessing an enterprise bean from a client program, comprising wrapping said enterprise bean in an Access Bean so that said enterprise bean is seen as a Java bean to said client program.

27. (Original) The method of claim 26, further comprising caching a plurality of attributes of said enterprise bean in said Access Bean.

28. (Original) The method of claim 27, further comprising indexing said plurality of attributes of said enterprise bean in a table having an entry for each instance of said enterprise bean.

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29. (Original) A program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine to perform the method steps of claim 1.
30. (Original) A program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine to perform the method steps of claim 26.
31. (Original) The method of claim 3 wherein said software component is an enterprise bean.
32. (Original) The method of claim 5 wherein said method occurs on a second server connected to said first server on a computer network.
33. (Original) The method of claim 6 wherein said computer network is the Internet.
34. (Original) The method of claim 7 wherein said step of choosing a wrapper for said software component further comprises selecting one from the group consisting of a Type 1 Access Bean, a Type 2 Access Bean, and a Type 3 Access Bean.
35. (Original) The computer readable medium of claim 17 wherein said software component is an enterprise bean.
36. (Original) The apparatus of claim 23 further comprising means to itemize said plurality of cached attributes corresponding to more than one instance of said enterprise bean.

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37. (Original) The apparatus of claim 24 further comprising a cache synchronizing means to issue a remote call to create or flush or refresh said cache to/from said enterprise bean.

38. (Original) A program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine to perform the method steps of claim 10.

39. (Original) A program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine to perform the method steps of claim 28.